

CLAIMS

[1] A multi-eye imaging apparatus comprising a plurality of imaging systems each including an optical system and an imaging element and having a different optical axis, wherein

5 the plurality of imaging systems include:

a first imaging system having a pixel shift means for changing a relative positional relationship between an image formed on the imaging element, and the imaging element; and

a second imaging system in which a relative positional
10 relationship between an image formed on the imaging element, and the imaging element, is fixed during time-series image capture.

[2] The multi-eye imaging apparatus according to claim 1, further comprising:

an image memory for accumulating a plurality of frames of image
15 information captured in time series;

a shake amount obtaining means for comparing the plurality of frames of image information accumulated in the image memory to obtain a shake amount; and

an image combining means for combining the plurality of frames of
20 images accumulated in the image memory.

[3] The multi-eye imaging apparatus according to claim 2, wherein a change amount of the positional relationship by the pixel shift means is determined based on the shake amount obtained by the shake amount obtaining means.

25 [4] The multi-eye imaging apparatus according to claim 1, wherein a change amount of the positional relationship by the pixel shift means is fixed.

[5] The multi-eye imaging apparatus according to claim 2, further comprising:

a parallax amount obtaining means for obtaining a magnitude of a parallax from images captured by the plurality of imaging systems having the different optical axes,

wherein the image combining means corrects and combines the
5 images based on the parallax amount obtained by the parallax amount obtaining means and the shake amount obtained by the shake amount obtaining means.

[6] The multi-eye imaging apparatus according to claim 5, further comprising:

10 an optimal image selecting means for selecting image information which is used in the combination of the image combining means, from image information captured by the first imaging system and image information captured by the second imaging system that are accumulated in the image memory, based on the shake amount obtained by the shake amount obtaining
15 means and the parallax amount obtained by the parallax amount obtaining means.

[7] The multi-eye imaging apparatus according to claim 2, further comprising:

means for discriminating different subjects,
20 wherein the shake amount obtaining means obtains a shake amount for each of the different subjects, and

the image combining means combines images for each of the different subjects.

[8] The multi-eye imaging apparatus according to claim 2, further
25 comprising:

means for dividing image information into a plurality of blocks,
wherein the shake amount obtaining means obtains a shake amount for each of the plurality of blocks, and

the image combining means combines images for each of the plurality of blocks.

[9] The multi-eye imaging apparatus according to claim 1, wherein the plurality of imaging systems having the different optical axes are composed
5 of:

an imaging system for handling a red color;

an imaging system for handling a green color; and

an imaging system for handling a blue color,

wherein, for at least one corresponding to one color of the imaging
10 systems corresponding to the respective colors, the number of the imaging systems corresponding to the one color is two or more, and

the two or more imaging systems for handling the one color include the first imaging system and the second imaging system.